

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended). A ~~material~~ film, fiber or membrane comprising an intimate mixture of S-sulfonated keratin protein and a water soluble polymer, the water soluble polymer selected from the group consisting of:

- (a) poly (vinyl alcohol) (PVA) and
- (b) poly (vinyl pyrrolidone) (PVP).

Claim 2 (Canceled).

Claim 3 (Currently Amended). A ~~material~~ film, fiber or membrane according to claim 1 wherein the S-sulfonated keratin protein is a S-sulfonated keratin protein fraction.

Claim 4 (Currently Amended). A ~~material~~ film, fiber or membrane according to claim 3 in which the S-sulfonated keratin protein fraction is from the intermediate filament protein family.

Claim 5 (Currently Amended). A ~~material~~ film, fiber or membrane according to claim 1 in which the S-sulfonated keratin protein is intact.

Claim 6 (Canceled).

Claim 7 (Previously Presented). A method for making a material comprising:

- (a) mixing a S-sulfonated keratin protein and a water soluble polymer to form an intimate mixture, the water soluble polymer selected from the group consisting of:
 - i. poly (vinyl alcohol) (PVA) and
 - ii. poly (vinyl pyrrolidone) (PVP);
- (b) casting the intimate mixture so produced; and
- (c) drying to create a material.

Claim 8 (Previously Presented). A method for making a material comprising:

- (a) mixing a S-sulfonated keratin protein and a water soluble polymer to form an intimate mixture, the water soluble polymer selected from the group consisting of:
 - i. poly (vinyl alcohol) (PVA) and
 - ii. poly (vinyl pyrrolidone) (PVP); and
- (b) extruding the intimate mixture produced from step (a) into a coagulation bath through a process of wet spinning.

Claim 9 (Previously Presented). A method for improving the physico-mechanical properties of the materials produced by claim 7, comprising introducing a cross-linker agent to form disulfide bonds and thus remove sulfonate functionalities.

Claim 10 (Previously Presented). A method according to claim 9 in which the cross-linking agent used as a reductant is a thiol or thioglycollate salt.

Claim 11 (Previously Presented). The method according to claim 9 in which the physico-mechanical properties are wet and dry strength.

Claim 12 (Original). A method according to claim 10 in which the thioglycollate salt is ammonium thioglycollate.

Claim 13 (Canceled).

Claim 14 (Previously Presented). The method according to claim 7 or 8 wherein the S-sulfonated keratin protein is a S-sulfonated protein fraction.

Claim 15 (Previously Presented). The method according to claim 14 wherein the S-sulfonated keratin protein fraction is from the intermediate filament protein family.

Claim 16 (Previously Presented). The method according to claim 7 or 8, wherein the S-sulfonated keratin protein is intact.

Claim 17 (Previously Presented). A method of improving the wet strength properties of the materials produced by the method of claim 7 or 8, comprising incorporating a cross-linking agent into them.

Claim 18 (Original). A method according to claim 17 in which the cross-linking agent is a protein in to the intimate mixture.

Claim 19 (Original). A method according to claim 17 in which the cross-linking agent is selected from the group consisting of formaldehyde and glutaraldehyde.

Claim 20 (Previously Presented). A process for improving the mechanical properties of a material produced by a method of claim 7 or 8, comprising heat treating the composite matrix to enhance its crystalline properties.

Claim 21 (Previously Presented). A S-sulfonated keratin protein derivative material in which the S-sulfonated keratin protein is chemically bonded to a monomer or a polymer material.

Claim 22 (Canceled).

Claim 23 (Previously Presented). A S-sulfonated keratin protein derivative material according to claim 21 in which the S-sulfonated keratin protein is a S-sulfonated keratin protein fraction.

Claim 24 (Previously Presented). A S-sulfonated keratin protein derivative material according to claim 23 in which the S-sulfonated keratin protein fraction is from the intermediate filament protein family.

Claim 25 (Previously Presented). A S-sulfonated keratin protein derivative material according to claim 21, wherein the S-sulfonated keratin protein is intact.

Claim 26 (Previously Presented). A S-sulfonated keratin protein derivative material according to claim 21, wherein the monomer or polymer material is from the acrylate, epoxide or anhydride group.

Claims 27 and 28 (Canceled).